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Scientific Note

NATURALLY OCCURRING INFESTATIONS OF DRYWOOD TERMITES IN BOOKS

Drywood termites of the family Kalotermitidae (Isoptera) occur throughout the tropics and subtropics (Snyder, T. E. 1949. Smith. Misc. Coll. 112: 1–490) with a few species occurring in warmer temperate regions of the world. All members of the Kalotermitidae are essentially wood dwellers with the exception of *Paraneotermes simplicicornis* (Banks), which exhibits a semi-subterranean habit (Gulmahamad, H. 1995. Pan-Pacif. Entomol. 71: 105–109). *Incisitermes fruticavus* Rust, which occurs in California, has been reported to infest living plants (Rust, M. K. 1979. Pan-Pacific Entomol. 55: 273–278). Recent evidence suggests that *I. fructicavus* also attacks structures in San Diego County (Michael K. Rust, personal communication).

Incisitermes minor (Hagen) is the most common drywood termite in western North America. Its distribution is mainly confined to California, portions of Arizona and northern Mexico. Isolated infestations of *I. minor* have also been reported from Washington, Utah and many parts of Canada. In many areas where it is endemic, *I. minor* is the most destructive drywood termite species. In southern California, where infestations of *I. minor* are very common in wooden structures, more money is spent controlling this species than subterranean termites.

Natural infestations of *I. minor* largely occur in sound, dry, wood. In California, infestations are commonly found in dead trees and shrubs and in dead portions of living trees and shrubs. Infestations are also found in wooden buildings and other wooden structures.

Over the past 19 years of field work in southern California, I have found infestations of *I. minor* in mobile homes, recreational vehicles, two classic automobiles (a 1932 Ford Huckster and a Woody), trucks, boats, ships, pool tables, pianos, spas, gazebos, wooden water tanks, power poles, fence posts, furniture, wooden pallets, wooden crates, wooden tool handles, decorative wooden statues, wood carvings, totem poles, wooden crosses, picture frames, firewood, scrap lumber, and wooden desks. Many of these infestation records have not been previously reported for this species.

It is common to find infestations and damage of subterranean termites in books and other paper products. These are well documented in the literature. In fact, subterranean termite damage to books, magazines, journals, written and printed records, and other paper documents, has been so great in the tropics that it was once thought that termites were responsible for delaying or at least slowing the progress of intellectual development in tropical areas (Light, S. F., M. Randall & F. G. White. 1930. Univ. Cal. Agric. Exp. Stn. Circ. 318: 1–64).

However, I was unable to locate any reference in the literature pertaining to drywood termite infestations and damage to books.

Here I document naturally occurring infestations of *I. minor* in books.

Case 1.—This incident involved a paperback book which was taken from a bookshelf in a home in Riverside, California. The top of this book had a single

Figure 1. Paperback book showing chamber excavated by a pair of alates of *I. minor*.

entry hole. Figure 1 shows this book when it is opened at about midway through the entry hole. The only termites discovered in the book were two live dealate *I. minor*. It seems that this pair of swarmers excavated a chamber in this book to begin colony initiation.

Case 2.—Figure 2 shows a coloring book which was found on a built-in book-

Figure 2. Coloring book showing a chamber and tunnel excavated by pseudergates of *I. minor*.

shelf in a home in West Covina, California. Note the main chamber at the right side of this book and the gallery extending to the shoulder of the boy carrying a pumpkin. Live pseudergates of *I. minor* were present in the main chamber of this book. Here, a colony of *I. minor* had infested the wall and built-in bookcase and it extended its infestation into this book.

Case 3.—Case 3 involved a hard cover book which was found in a home in Ontario, California. Three small holes and accompanying tunnels were excavated from one cover of the book to the other. Some small chambers were found about midway through the book. Drywood termite pellets, with six concave sides, were present in the holes and chambers within this book but no live termites were found. Apparently alates tunnelled through this book and, not finding it suitable went elsewhere.

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